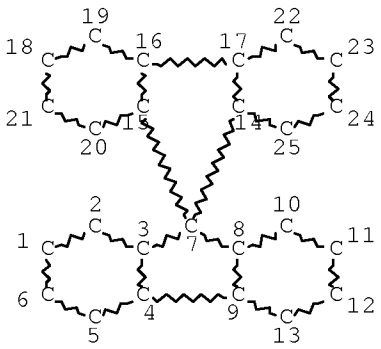
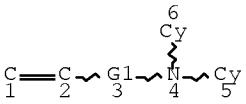
```
=> d que
L3              STR
```



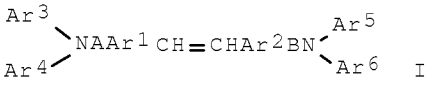
```
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  25

STEREO ATTRIBUTES: NONE
L4              STR
```



```
REP G1=(1-2) CY
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   6

STEREO ATTRIBUTES: NONE
L6           35 SEA FILE=REGISTRY SSS FUL L3 AND L4
L7           18 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6


=> d l7 1-18 ibib ed abs hitstr hitind

L7   ANSWER 1 OF 18  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        2007:845167  HCAPLUS  Full-text
DOCUMENT NUMBER:         147:223434
TITLE:                   electroluminescent compounds comprising fluorene
                         group and organic electroluminescent device using
                         the same
INVENTOR(S):             Choi, Il Won; Kim, Chi Sik; Shin, Hyo Nim; Lee, Mi
                         Ae; Shin, Hwan Seung; Kwak, Mi Young; Kim, Nam
                         Kyun; Kim, Bong Ok; Kim, Sung Min
PATENT ASSIGNEE(S):      Gracel Display Inc., S. Korea; Kwon, Hyuck Joo;
                         Cho, Young Jun; Baek, Jung Su
SOURCE:                  PCT Int. Appl., 49pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:
```

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007086701	A1	20070802	WO 2007-KR456	20070126
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
KR 2007078698	A	20070801	KR 2007-6082	20070119
PRIORITY APPLN. INFO.:			KR 2006-8840 A	20060127
			KR 2007-6082 A	20070119

ED Entered STN: 03 Aug 2007
GI

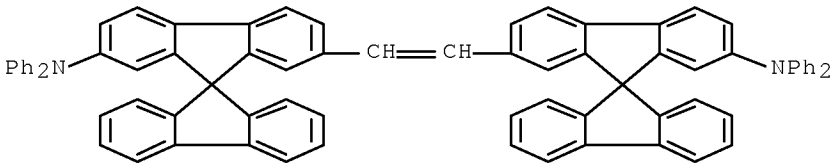


I

AB The present invention relates to organic electroluminescent compds. represented by formula I, where Ar1 is a bond or fluorene derivative, Ar2 is fluorene or fluorene derivative, A and B are a bond, aryl group, Ar3-6 can be the same as Ar1-2, A and B, or halogen. The electroluminescent device is comprised of the compds. in an electroluminescent layer. The electroluminescent compound according to the invention has good luminous efficiency and excellent lifetime of the material, so that an OLED device having very good operation lifetime can be prepared

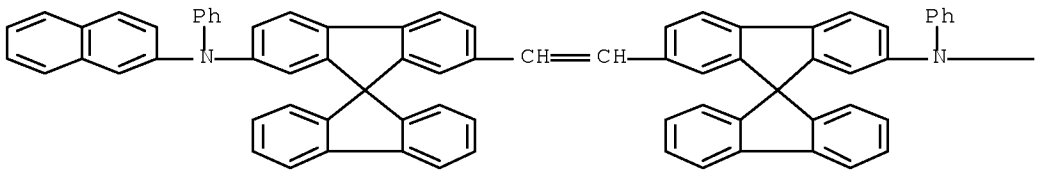
IT 944940-87-8P 944940-96-9P 944941-04-2P
944941-17-7P 944941-30-4P 944941-31-5P
944941-32-6P
(organic electroluminescent compds. comprising fluorene group)

RN 944940-87-8 HCAPLUS
CN 9,9'-Spirobi[9H-fluoren]-2-amine, 7,7''-(1,2-ethenediyl)bis[N,N-diphenyl- (CA INDEX NAME)

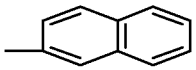


RN 944940-96-9 HCAPLUS
CN 9,9'-Spirobi[9H-fluoren]-2-amine, 7,7''-(1,2-ethenediyl)bis[N-2-naphthalenyl-N-phenyl- (CA INDEX NAME)

PAGE 1-A

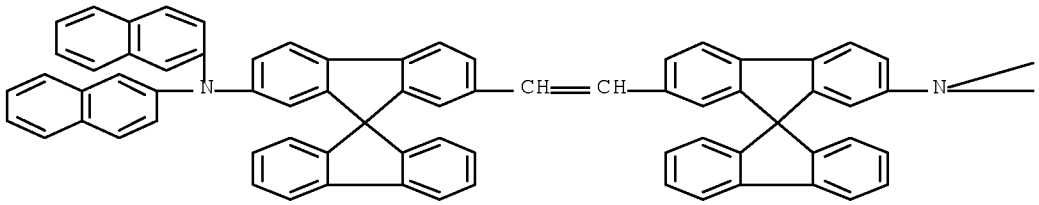


PAGE 1-B

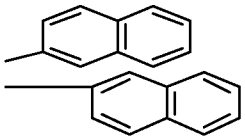


RN 944941-04-2 HCAPLUS
CN 9,9'-Spirobi[9H-fluoren]-2-amine, 7,7''-(1,2-ethenediyl)bis[N,N-di-2-naphthalenyl- (CA INDEX NAME)

PAGE 1-A

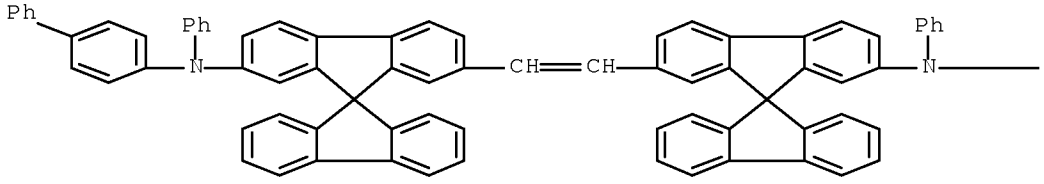


PAGE 1-B

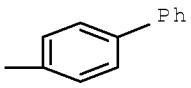


RN 944941-17-7 HCAPLUS
CN 9,9'-Spirobi[9H-fluoren]-2-amine, 7,7''-(1,2-ethenediyl)bis[N-[1,1'-biphenyl]-4-yl-N-phenyl- (CA INDEX NAME)

PAGE 1-A

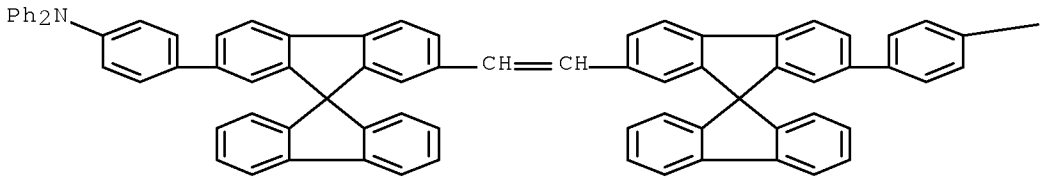


PAGE 1-B



RN 944941-30-4 HCAPLUS
CN Benzenamine, 4,4'-(1,2-ethenediyldi-9,9'-spirobi[9H-fluorene]-7,2-diyl)bis[N,N-diphenyl- (CA INDEX NAME)

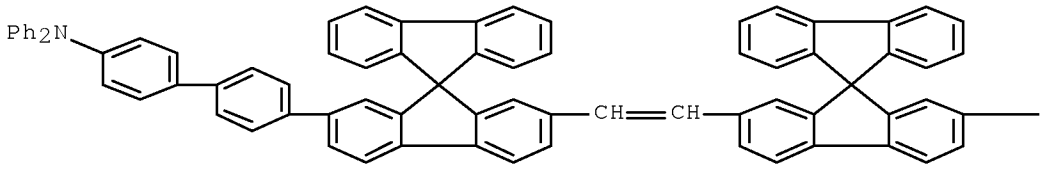
PAGE 1-A



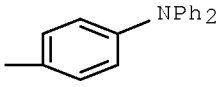
PAGE 1-B

RN 944941-31-5 HCAPLUS
CN [1,1'-Biphenyl]-4-amine, 4'-[7-[2-[7-[4-(diphenylamino)phenyl]-9,9'-spirobi[9H-fluoren]-2-yl]ethenyl]-9,9'-spirobi[9H-fluoren]-2-yl]-N,N-diphenyl- (CA INDEX NAME)

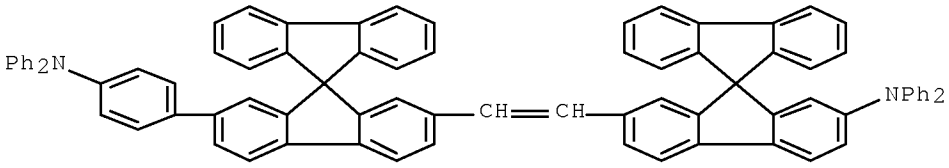
PAGE 1-A



PAGE 1-B



RN 944941-32-6 HCAPLUS
CN 9,9'-Spirobi[9H-fluoren]-2-amine, 7-[2-[7-[4-(diphenylamino)phenyl]-9,9'-spirobi[9H-fluoren]-2-yl]ethenyl]-N,N-diphenyl- (CA INDEX NAME)

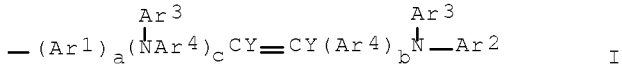


CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 25, 73
IT 944940-86-7P 944940-87-8P 944940-92-5P 944940-94-7P
944940-96-9P 944940-98-1P 944941-00-8P 944941-02-0P
944941-04-2P 944941-06-4P 944941-13-3P 944941-15-5P
944941-17-7P 944941-19-9P 944941-21-3P 944941-25-7P
944941-26-8P 944941-30-4P 944941-31-5P
944941-32-6P 944941-36-0P 944941-37-1P 944941-38-2P
(organic electroluminescent compds. comprising fluorene group)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:671832 HCAPLUS Full-text
DOCUMENT NUMBER: 147:107605
TITLE: Triarylamine-arylvinylene moiety-containing conjugated polymers, their production and use in electronic components such as organic LEDs
INVENTOR(S): Buesing, Arne; Ludemann, Aurelie; Scheurich, Rene
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: PCT Int. Appl., 55pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007068325	A1	20070621	WO 2006-EP11085	20061118
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
DE 102005060473	A1	20070628	DE 2005-102005060473	20051217
PRIORITY APPLN. INFO.:			DE 2005-102005060473A	20051217

ED Entered STN: 22 Jun 2007
GI



I

AB The invention relates to conjugated polymers and dendrimers containing styryl-triarylamine structural moieties of the general formula I, to their use in electronic components, especially in polymer organic LEDs, to monomers for producing the same, and to components and LEDs containing the polymers and dendrimers. In the general formula, each numbered Ar group is chosen independently from Ar groups having different nos. as a monocyclic or polycyclic aryl or heteroaryl, which is optionally substituted once or more by R1 (in Ar1 only), R2 (in Ar2 only), R3 (in Ar3 only), or R4 (in Ar4 only). In the general formula, every instance of Y is independently chosen to represent H, F, Cl, or a C1-C40 carbon or hydrocarbon group, whereby either two Y groups or a Y group and a neighboring R1, R4, Ar1, or Ar4 group may form as combined an aliphatic or aromatic, monocyclic or polycyclic ring system. In the general formula, R1, R2, R3, and R4 are independently chosen as H, F, Cl, OH, CN, N(R)2, Si(R)3, B(R)2, or as a C1-C40 carbon or hydrocarbon group, such that two or more of groups R1-4 can be combined to form an aliphatic or an aromatic, monocyclic or polycyclic ring system; and R1, R2, and R3 can also represent a covalent bond in the polymer or dendrimer. In the general formula, all occurrences of R independently represent H or a C1-C22 straight-chain, branched or cyclic alkyl, in which one or more neighboring CH2-groups are optionally substituted by C(R0)=C(R0), C=C, -N(R0), -Si(R0)2, O, S, CO, COO, OCO, OCOO, SCO, COS such that no two O or S atoms are directly bonded to each other. In the general formula, every instance of R0 independently represents H or a C1-C20 aliphatic or aromatic hydrocarbon. In the general formula, a is 1, 2, or 3; b is 1, 2, or 3; and c is 0 or 1.

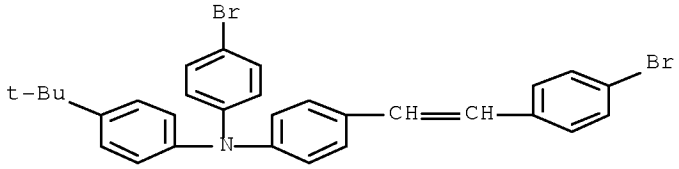
IT 942216-49-1P
(triarylamine-arylvinylene moiety-containing conjugated polymers, their production and use)

RN 942216-49-1 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N4,N4'-bis(4-bromophenyl)-N4,N4'-bis[4-(1,1-dimethylethyl)phenyl]-, polymer with 4-bromo-N-[4-[2-(4-bromophenyl)ethenyl]phenyl]-N-[4-(1,1-dimethylethyl)phenyl]benzenamine, 2,7-dibromo-2',3',6',7'-tetrakis(2-methylbutoxy)-9,9'-spirobi[9H-fluorene] and 2,2'-[2',3',6',7'-tetrakis(2-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (CA INDEX NAME)

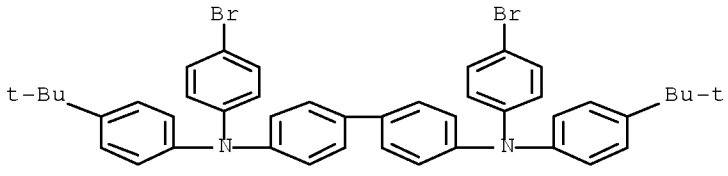
CM 1

CRN 942216-48-0
CMF C30 H27 Br2 N



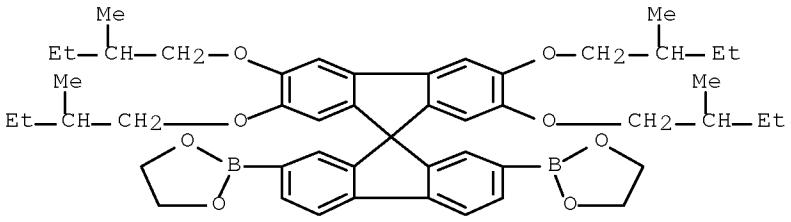
CM 2

CRN 463944-36-7
CMF C44 H42 Br2 N2



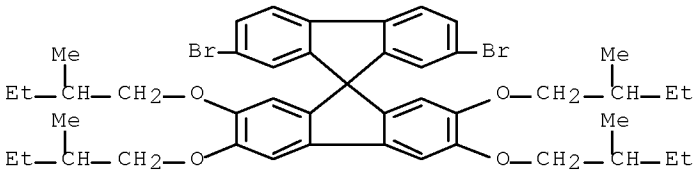
CM 3

CRN 396123-43-6
CMF C49 H62 B2 O8



CM 4

CRN 395059-23-1
CMF C45 H54 Br2 O4



CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38, 52, 73, 74
IT 942216-49-1P
(triarylamine-arylvinylene moiety-containing conjugated polymers, their production and use)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

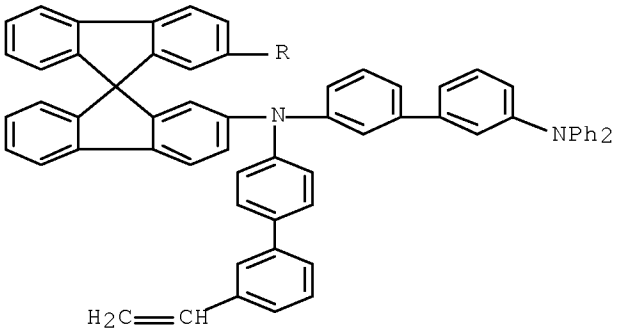
L7 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:460678 HCAPLUS Full-text
DOCUMENT NUMBER: 146:472315
TITLE: Method for manufacture of organic electroluminescent element and organic electroluminescent element and display, and illuminating device
INVENTOR(S): Taka, Hideo; Tanaka, Tatsuo; Suzurizato, Yoshiyuki; Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 107pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007110097	A	20070426	JP 2006-246467	20060912
PRIORITY APPLN. INFO.:			JP 2005-266661 A	20050914

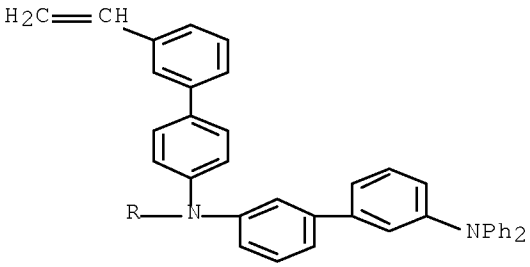
ED Entered STN: 27 Apr 2007
AB The title element comprises organic layers between the cathode and the anode, wherein ≥1 of the organic layers contains purifiable medium-mol. compound or low-mol. polymers and the layer has a d. of 1.10-1.25 g/cm3. The element can be manufactured by coating method. The element shows long service life and can be driven at low voltages.
IT 934972-69-7
(hole transport material; manufacture of organic electroluminescence elements and displays and illuminating devices)
RN 934972-69-7 HCAPLUS

CN 9,9'-Spirobi[9H-fluorene]-2,2'-diamine, N2,N2'-bis[3'-(diphenylamino)[1,1'-biphenyl]-3-yl]-N2,N2'-bis(3'-ethenyl[1,1'-biphenyl]-4-yl)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73

IT 934972-69-7 934972-70-0 934972-71-1 934972-72-2
(hole transport material; manufacture of organic electroluminescence elements and displays and illuminating devices)

L7 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:610306 HCAPLUS Full-text
DOCUMENT NUMBER: 145:258960
TITLE: Synthesis and Properties of a Novel Electrochromic Polymer Obtained from the Electropolymerization of a 9,9'-Spirobifluorene-Bridged Donor-Acceptor (D-A) Bichromophore System
AUTHOR(S): Otero, Luis; Sereno, Leonides; Fungo, Fernando; Liao, Yuan-Li; Lin, Chi-Yen; Wong, Ken-Tsung
CORPORATE SOURCE: Departamento de Quimica, Universidad Nacional de Rio Cuarto, Rio Cuarto, 5800, Argent.
SOURCE: Chemistry of Materials (2006), 18(15), 3495-3502
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 25 Jun 2006

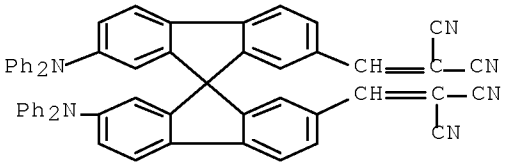
AB The synthesis and photophys., electrochem., and spectroelectrochem. characterization of a novel donor-acceptor (D-A) bichromophore system composed of two D-A segments linking through a spiro center are reported. The electron-donating (D) moieties are triphenylamine (TPA) groups, whereas the electron-withdrawing (A) moieties are cyano groups. The particular "spiro" configuration that perpendicularly bonds the D-A chromophores by a tetrahedral carbon, impedes orbital interactions

between the branches. Thus, the two TPA substituents act independently, rendering an efficient electropolymn. process feasible. The polymer film obtained showed reversible electrochem. oxidation accompanied by strong color changes with high coloration efficiency and contrast ratio, which can be switched by potential modulation. The remarkable electrochromic behavior of the film is clearly interpreted on the basis of spectroelectrochem. studies. A plausible polymerization mechanism involved with the TPA dimerization reaction is proposed for the electropolymn. process.

IT 864957-79-9
(comparison compound; photophys.- and electrochem. of spirobifluorene-bridged donor-acceptor bichromophore and electrochromism of polymer film deposited by electropolymn. of this bichromophore)

RN 864957-79-9 HCAPLUS

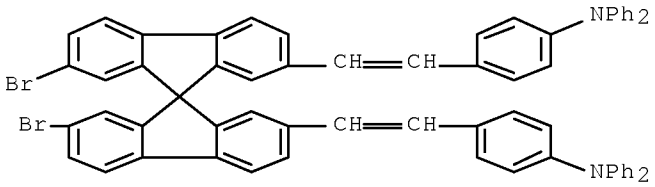
CN Propanedinitrile, 2,2'-[[7,7'-bis(diphenylamino)-9,9'-spirobi[9H-fluorene]-2,2'-diyl]dimethylidyne]bis- (9CI) (CA INDEX NAME)



IT 906067-60-5P
(reaction with CuCN)

RN 906067-60-5 HCAPLUS

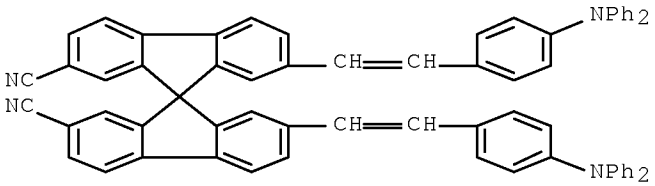
CN Benzenamine, 4,4'-[(7,7'-dibromo-9,9'-spirobi[9H-fluorene]-2,2'-diyl)di-2,1-ethenediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



IT 906067-53-6P
(synthesis and photophys.- and electrochem. of spirobifluorene-bridged donor-acceptor bichromophore and electrochromism of polymer film deposited by electropolymn. of this bichromophore)

RN 906067-53-6 HCAPLUS

CN 9,9'-Spirobi[9H-fluorene]-2,2'-dicarbonitrile, 7,7'-bis[2-[4-(diphenylamino)phenyl]ethenyl]- (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73

IT 864957-79-9
(comparison compound; photophys.- and electrochem. of spirobifluorene-bridged donor-acceptor bichromophore and

electrochromism of polymer film deposited by electropolymn. of this bichromophore)

IT 906067-60-5P
(reaction with CuCN)

IT 906067-53-6P
(synthesis and photophys.- and electrochem. of spirobifluorene-bridged donor-acceptor bichromophore and electrochromism of polymer film deposited by electropolymn. of this bichromophore)

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:208377 HCAPLUS Full-text
DOCUMENT NUMBER: 144:458112
TITLE: High-Efficiency Polymer Light-Emitting Diodes Using Neutral Surfactant Modified Aluminum Cathode
AUTHOR(S): Niu, Yu-Hua; Jen, Alex K.-Y.; Shu, Chingfong
CORPORATE SOURCE: Department of Materials Science and Engineering, University of Washington, Seattle, WA, 98195, USA
SOURCE: Journal of Physical Chemistry B (2006), 110(12), 6010-6014
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Mar 2006

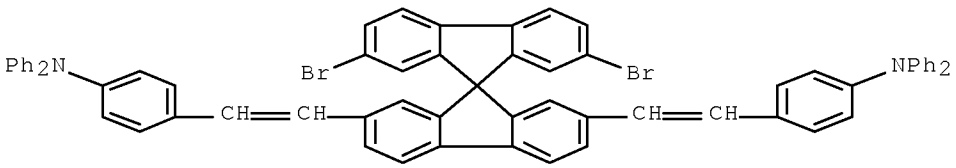
AB High-efficiency polymer light-emitting diodes were fabricated by inserting a layer of nonionic neutral surfactant between the electroluminescent (EL) layer and the high-work-function Al cathode via spin coating. Both the poly(ethylene glycol)- and poly(propylene glycol)-based surfactants as well as their copolymers can all demonstrate similar performance enhancement. Device performances comparable to or even better than those of the control devices using Ca as the cathode were achieved for both poly(p-phenylene)-based and polyfluorene-based conjugated polymers with orange-red, green, and blue emission colors. It is possible that when both surfactant and Al are used as the cathode, the abundant hole injection through a hole-transporting layer and hole pile-up at the inner side of the EL/surfactant interface might cause an effective elec. field to induce the realignment of the dipole moment of those polar surfactant mols., thus lowering the barrier for electron injection. The coordination between the Al and O atoms on the surfactant might cause n-type doping in the areas near surfactant in the EL polymer layer that causes the enhancement of electron injection.

IT 877680-28-9
(in high-efficiency polymer LEDs using neutral surfactant-modified aluminum cathode)

RN 877680-28-9 HCAPLUS
CN Benzenamine, 4,4'-[(2',7'-dibromo-9,9'-spirobi[9H-fluorene]-2,7-diyl)di-2,1-ethenediyl]bis[N,N-diphenyl-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

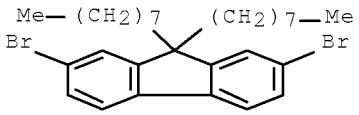
CM 1

CRN 877680-27-8
CMF C65 H44 Br2 N2



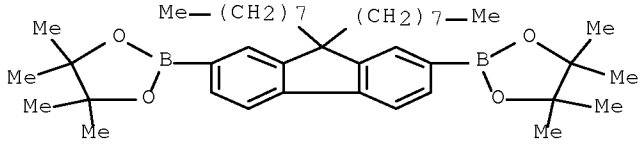
CM 2

CRN 198964-46-4
CMF C29 H40 Br2



CM 3

CRN 196207-58-6
CMF C41 H64 B2 O4



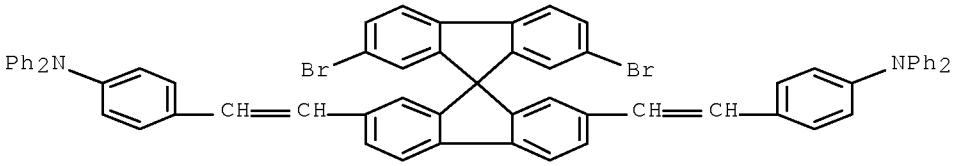
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36, 38, 66, 76
IT 112-92-5, 1-Octadecanol 593-45-3, Octadecane 9004-95-9, Poly(ethylene glycol) hexadecyl ether 24938-91-8 50926-11-9, ITO 138184-36-8, MEH-PPV 877680-28-9 885601-23-0
(in high-efficiency polymer LEDs using neutral surfactant-modified aluminum cathode)
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:693061 HCAPLUS Full-text
DOCUMENT NUMBER: 144:274787
TITLE: Color tuning of a light-emitting polymer: polyfluorene-containing pendant amino-substituted distyrylarylene units
AUTHOR(S): Su, Huei-Jen; Wu, Fang-Iy; Tseng, Ya-Hsien; Shu, Ching-Fong
CORPORATE SOURCE: Dep. Appl. Chem., Natl. Chiao Tung Univ., Hsinchu, 300, Taiwan
SOURCE: Advanced Functional Materials (2005), 15(7), 1209-1216
CODEN: AFMDC6; ISSN: 1616-301X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Aug 2005
AB We have synthesized a novel polyfluorene copolymer, polyfluorene-bis[4-(diphenylamino)styryl]fluorene (PF-DPAS) by orthogonally attaching an amino-substituted distyrylarylene dye, bis[4-(diphenylamino)styryl]fluorene, onto the C9 position of a fluorene unit. We have investigated this polymer's thermal properties, electronic properties (viz., absorption and photoluminescence), and electrochem. behavior. Photoluminescence studies indicate that color tuning can be achieved through efficient Foerster energy transfer from the higher-energy polyfluorene backbone to the lower-energy pendent DPAS units. We have fabricated light-emitting diodes with the structure indium tin oxide (ITO)/poly(3,4-ethylenedioxythiophene) (PEDOT)/ emitting layer/1,3,5-tris(N-phenylbenzimidazol-2-yl)benzene (TPBI)/Mg:Ag. The devices, based on blends of PF-DPAS in. polyfluorene-triphenylamine- oxadiazole (PF-TPA-OXD), exhibit significant improvements in device performance relative to that of the pure PF-TPA-OXD device; we attributed this improvement to both a red-shift of the electroluminescence (EL) spectra and an enhancement in quantum efficiency. At a blend ratio of 1:20, the EL spectrum is voltage-independent and stable, and exhibits the characteristic emission of a DPAS moiety: a peak at 461 nm and Commission Internationale de l'Eclairage (CIE) coordinates of (0.15, 0.18). The maximum external quantum efficiency is 2.08 % (2.87 cd A-1) at a bias of 9 V (86.1 mA cm-2) with a brightness of 2467 cd m-2; the maximum brightness (6916 cd m-2) occurred at an applied voltage of 13 V and a c.d. of 361 mA cm-2.

IT 877680-28-9P
(color tuning of light-emitting polyfluorene containing pendent amino-substituted distyrylarylene units)
RN 877680-28-9 HCAPLUS
CN Benzenamine, 4,4'-[(2',7'-dibromo-9,9'-spirobi[9H-fluorene]-2,7-diyl)di-2,1-ethenediyl]bis[N,N-diphenyl-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

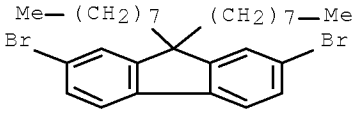
CM 1

CRN 877680-27-8
CMF C65 H44 Br2 N2



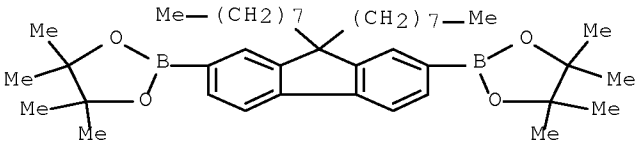
CM 2

CRN 198964-46-4
CMF C29 H40 Br2

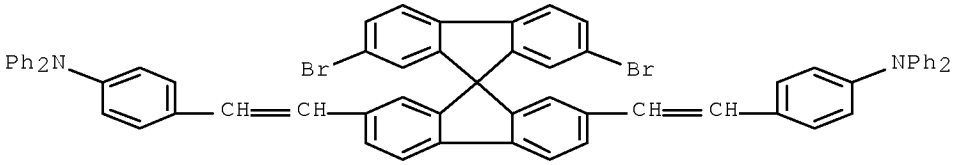


CM 3

CRN 196207-58-6
CMF C41 H64 B2 O4

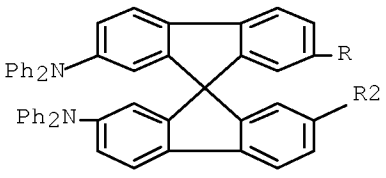


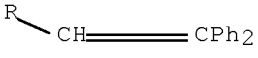
IT 877680-27-8P
(monomer; color tuning of light-emitting polyfluorene containing pendent amino-substituted distyrylarylene units)
RN 877680-27-8 HCAPLUS
CN Benzenamine, 4,4'-[(2',7'-dibromo-9,9'-spirobi[9H-fluorene]-2,7-diyl)di-2,1-ethenediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

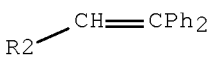


CC 36-5 (Physical Properties of Synthetic High Polymers)
IT 877680-28-9P
(color tuning of light-emitting polyfluorene containing pendent amino-substituted distyrylarylene units)
IT 877680-27-8P
(monomer; color tuning of light-emitting polyfluorene containing pendent amino-substituted distyrylarylene units)
REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

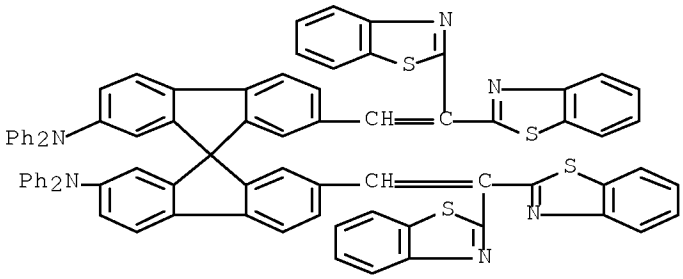
L7 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:655378 HCAPLUS Full-text
DOCUMENT NUMBER: 143:306020
TITLE: Improved Synthesis of 2,2'-Dibromo-9,9'-spirobifluorene and Its 2,2'-Bisdonor-7,7'-bisacceptor-Substituted Fluorescent Derivatives
AUTHOR(S): Chiang, Chih-Long; Shu, Ching-Fong; Chen, Chin-Ti
CORPORATE SOURCE: Department of Applied Chemistry, National Chiao Tung University, Hsin-Chu, 30035, Taiwan
SOURCE: Organic Letters (2005), 7(17), 3717-3720
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:306020
ED Entered STN: 28 Jul 2005
AB Pure 2,2'-dibromo-9,9'-spirobifluorene (I) was synthesized by a method that did not involve troublesome dibromination of 9,9'-spirobifluorene or Sandmeyer reaction of 2,2'-diamino-9,9'-spirobifluorene. Starting from 4-Me3SiC6H4B(OH)2, I was prepared by Suzuki cross-coupling with 1,2-C6H4Br2, subsequent lithiation and condensation with (MeO)2CO, further bromodesilation, and finally spirocyclization by classical Clark and Gomberg method. A series of donor-acceptor orthogonally substituted 9,9'-spirobifluorene was subsequently prepared showing rich variation of fluorescence in solution and in solid state. Compound I was studied by x-ray structural anal. [monoclinic, space group P2(1)/c, a 14.5655(5), b 16.5819(5), c 7.9981(2) Å, β 93.4850(10)°, V 1928.16(10) Å3, Z 4].
IT 724789-65-5P 864957-77-7P 864957-78-8P 864957-79-9P
(preparation of bromospirobifluorene and bisdonor bisacceptor fluorescent derivs.)
RN 724789-65-5 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2'-diamine, 7,7'-bis(2,2-diphenylethenyl)-N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



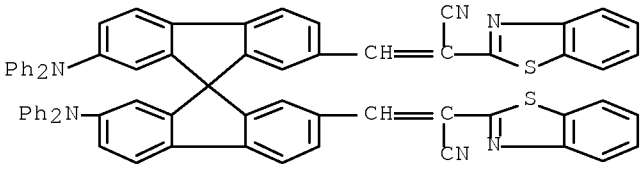




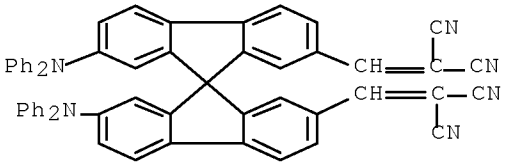
RN 864957-77-7 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2'-diamine, 7,7'-bis[2,2-bis(2-benzothiazolyl)ethenyl]-N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



RN 864957-78-8 HCAPLUS
CN 2-Benzothiazoleacetonitrile, α,α'-[[7,7'-bis(diphenylamino)-9,9'-spirobi[9H-fluorene]-2,2'-diyl]dimethylidyne]bis- (9CI) (CA INDEX NAME)



RN 864957-79-9 HCAPLUS
CN Propanedinitrile, 2,2'-[[7,7'-bis(diphenylamino)-9,9'-spirobi[9H-fluorene]-2,2'-diyl]dimethylidyne]bis- (9CI) (CA INDEX NAME)



CC 25-26 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 22, 29, 75
IT 724789-65-5P 862664-73-1P 864957-77-7P
864957-78-8P 864957-79-9P
(preparation of bromospirobifluorene and bisdonor bisacceptor fluorescent derivs.)
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

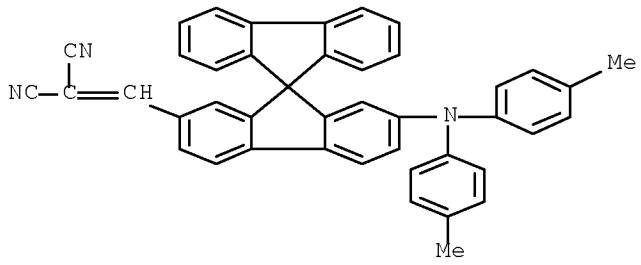
L7 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:239950 HCAPLUS Full-text
DOCUMENT NUMBER: 143:459708
TITLE: Red-emitting fluorenes as efficient emitting hosts for non-doped, organic red-light-emitting diodes

AUTHOR(S): Chiang, Chih-Long; Wu, Min-Fei; Dai, De-Chang; Wen, Yuh-Sheng; Wang, Juen-Kai; Chen, Chin-Ti
CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei, 11529, Taiwan
SOURCE: Advanced Functional Materials (2005), 15(2), 231-238
CODEN: AFMDC6; ISSN: 1616-301X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:459708
ED Entered STN: 18 Mar 2005

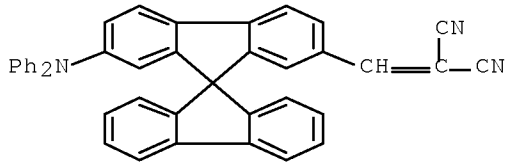
AB Rare red-fluorescent fluorene derivs. were designed and synthesized. The long-wavelength red fluorescence is achieved by incorporating a di(4-tolyl)amino or diphenylamino electron donor and a dicyanovinyl electron acceptor. The single-crystal x-ray structures of the di(4-tolyl)amino (pTSPDCV) and diphenylamino (PhSPDCV) compds. indicate only weak non-π van der Waals contacts in addition to long-distance dipole-dipole interactions of the red-emitting fluorene mols. in the solid state. The aggregation of the dipolar fluorene is largely suppressed by introducing bulky 9,9-substituents (spiro-fused bifluorene) as well as a nonplanar di(4-tolyl)amino or diphenylamino group. In the solid state, these fluorene derivs. all show red fluorescence that is much brighter than with the red dopants Nile Red and DCM (4-(dicyanomethylene)-2-methyl-6-[4-(dimethylaminostyryl)-4H- pyran]). The unique photophys. properties of red-emitting fluorene derivs. differ from other known red dopants and facilitate the fabrication of nondoped red organic light-emitting diodes (OLEDs). Authentic red (CIE, x = 0.65, yr = 0.35) electroluminescence with a brightness of >12000 cd m-2 (greater than 600 cd m-2 at 20 mA cm-2) and a remarkable external quantum efficiency ≤3.6% were observed for the red-emitting OLEDs with pTSPDCV or PhSPDCV as the sole emitting host.

IT 869299-85-4P 869299-86-5P
(crystallog. and red fluorescence; red-emitting fluorenes as efficient emitting hosts for non-doped, organic red-light-emitting diodes)

RN 869299-85-4 HCAPLUS
CN Propanedinitrile, [[7-[bis(4-methylphenyl)amino]-9,9'-spirobi[9H-fluoren]-2-yl]methylene]- (9CI) (CA INDEX NAME)



RN 869299-86-5 HCAPLUS
CN Propanedinitrile, [[7-(diphenylamino)-9,9'-spirobi[9H-fluoren]-2-yl]methylene]- (9CI) (CA INDEX NAME)

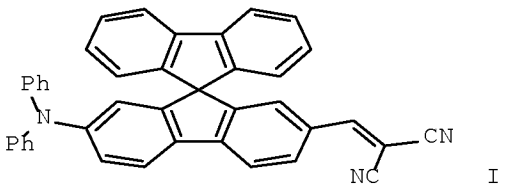


CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 41, 73, 75, 76

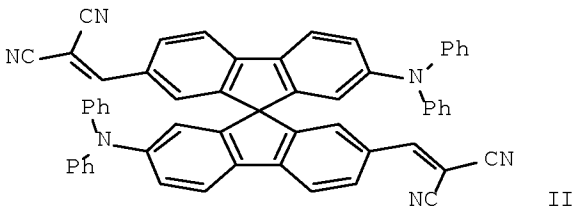
IT 869299-85-4P 869299-86-5P
(crystallog. and red fluorescence; red-emitting fluorenes as efficient emitting hosts for non-doped, organic red-light-emitting

diodes)
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:114653 HCAPLUS Full-text
DOCUMENT NUMBER: 144:36070
TITLE: Red fluorenes as the efficient host emitter for non-doped red organic light-emitting diodes
AUTHOR(S): Chiang, Chih-Long; Wu, Min-Fei; Shu, Ching-Fong; Chen, Chin-Ti
CORPORATE SOURCE: Department of the Applied Chemistry, National Chiao Tung Univ., Hsinchu, 30035, Taiwan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2005), 5632(Light-Emitting Diode Materials and Devices), 80-87
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 144:36070
ED Entered STN: 10 Feb 2005
GI

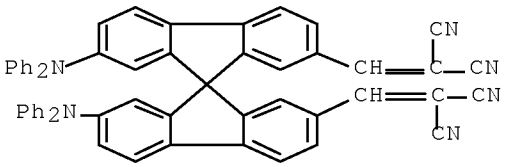


I

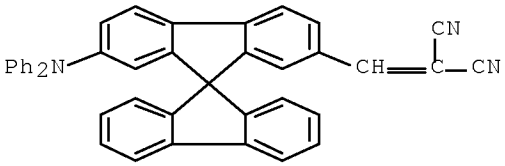


II

AB Crystal red fluorophores based on donor-acceptor substituted spirofluorene, i.e., I show strong fluorescence in solution (Φf.apprx.70%) as well as in solid state (Φf > 30%). Non-doped red OLEDs fabricated with I exhibit authentic red (CIE, x = 0.65, yr = 0.35) electroluminescence with brightness over 12,000 cd m-2 (or > 600 cd m-2 at 20 mA cm-2) and remarkable external quantum efficiency as high as 3.6%. On the other hand, the bis-substituted derivs. of spirofluorene II show relatively weak fluorescence both in solution (Φf < 20%) and in solid state (Φf < 10%). Although saturated red electroluminescence (CIE, x = 0.65, yr = 0.34) is also observed, non-doped red OLED containing II performs much worse than I OLEDs. Both PhSPDCV and BisPhSPDCV are not amorphous forming loosely packed crystal materials in solid state with no intimate π-π interaction.
IT 864957-79-9P 869299-86-5P
(preparation of red fluorenes as efficient host emitter for non-doped red organic light-emitting diodes)
RN 864957-79-9 HCAPLUS
CN Propanedinitrile, 2,2'-[[7,7'-bis(diphenylamino)-9,9'-spirobi[9H-fluorene]-2,2'-diyl]dimethylidyne]bis- (9CI) (CA INDEX NAME)

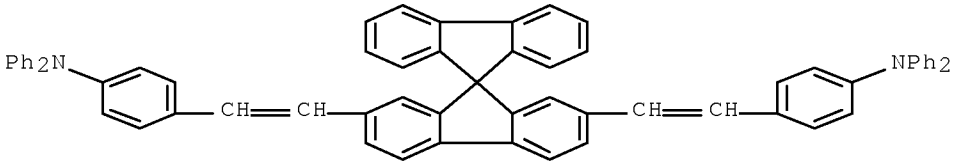


RN 869299-86-5 HCAPLUS
CN Propanedinitrile, [[7-(diphenylamino)-9,9'-spirobi[9H-fluoren]-2-yl]methylene]- (9CI) (CA INDEX NAME)

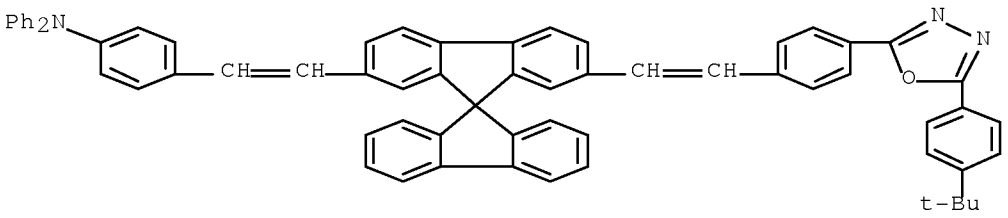


CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 73, 75
IT 864957-79-9P 869299-86-5P
(preparation of red fluorenes as efficient host emitter for non-doped red organic light-emitting diodes)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:19103 HCAPLUS Full-text
DOCUMENT NUMBER: 143:248013
TITLE: Novel two-photon absorbing conjugated oligomeric chromophores: Property modulation by π-center
AUTHOR(S): Kim, O.-K.; Huang, Z.; Peterman, E.; Kirkpatrick, S.; Sung, C. S. P.
CORPORATE SOURCE: Chemistry Division, Naval Research Laboratory, Washington, DC, 20375, USA
SOURCE: ACS Symposium Series (2005), 888(Chromogenic Phenomena in Polymers), 161-172
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 10 Jan 2005
AB A series of donor/donor (D/D), donor/acceptor (D/A) and acceptor/acceptor (A/A) pair conjugated chromophores based on a rigid conjugated linker (π-center) were synthesized (D-π-D, D-π-A and A-π-A) and two-photon absorption properties with a particular emphasis on the role of π-centers were studied. Optical and electrochem. properties of the chromophores were also investigated and correlated to two-photon absorption properties.
IT 436798-89-9 436798-90-2
(two-photon absorption properties of conjugated oligomeric chromophores)
RN 436798-89-9 HCAPLUS
CN Benzenamine, 4,4'-(9,9'-spirobi[9H-fluorene]-2,7-diyldi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 436798-90-2 HCAPLUS
CN Benzenamine, 4-[2-[7-[2-[4-[5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazol-2-yl]phenyl]ethenyl]-9,9'-spirobi[9H-fluoren]-2-yl]ethenyl]-N,N-diphenyl- (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 73
IT 261163-34-2 261163-35-3 261163-36-4 261163-37-5 279675-93-3
436798-87-7 436798-88-8 436798-89-9 436798-90-2
436798-91-3 436798-92-4
(two-photon absorption properties of conjugated oligomeric chromophores)
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

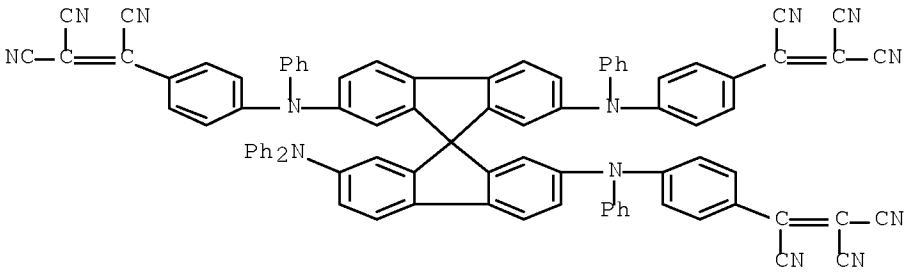
L7 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:957380 HCAPLUS Full-text
DOCUMENT NUMBER: 141:396986
TITLE: Organic colorants with metallic gloss and film-forming materials containing them with excellent dispersion stability
INVENTOR(S): Ogura, Katsuyuki; Kurata, Ryuichiro; Kano, Fumihisa
PATENT ASSIGNEE(S): Chiba University, Japan; Toyo Ink Mfg. Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004315545	A	20041111	JP 2003-55065	20030303
PRIORITY APPLN. INFO.:			JP 2003-52095 A	20030228

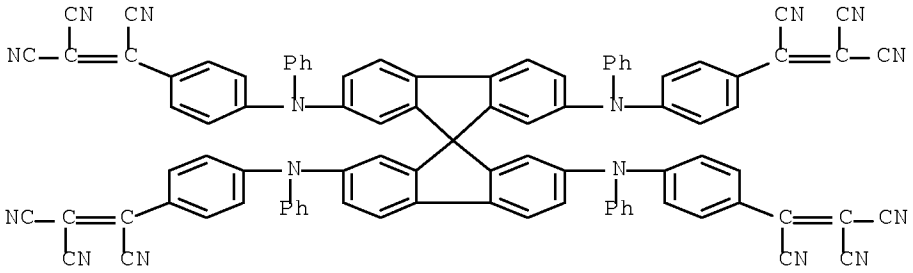
ED Entered STN: 11 Nov 2004
AB The colorants, useful for writing and printing inks and coatings, are depicted as A[NRXC(CN):C(CN)2]n [A = (un)substituted aromatic, heterocyclic, condensed, or spirocyclic ring residue, (un)substituted biphenyl, fluorene, or triphenylamine-based dendrimer residue; X = (un)substituted aromatic or heterocyclic ring residue; R = (un)substituted aromatic group, heterocyclic group, alkyl, alkenyl, or cycloalkyl; n ≥2]. Thus, an ink containing N,N'-bis(4-tricyanoethenylphenyl)-N,N'-diphenylbenzidine (prepared from N,N,N',N'-tetraphenylbenzidine and tetracyanoethylene), a rosin-modified phenolic resin, and a petroleum-type solvent showed good gloss and adhesion to paper and metal.
IT 790256-31-4P, 2-(Diphenylamino)-2',7,7'-tris[N-phenyl-[4-(tricyanoethenyl)phenyl]amino]-9,9'-spirofluorene 790256-32-5P

, 2,2',7,7'-Tetrakis[N-phenyl-[4-(tricyanoethenyl)phenyl]amino]-9,9'-spirofluorene
(colorant; organic colorants with metallic gloss for inks and coatings with good storage stability)

RN 790256-31-4 HCAPLUS
CN Ethenetricarbonitrile, 2,2',2''-[[7'-(diphenylamino)-9,9'-spirobi[9H-fluorene]-2,2',7-triyl]tris[(phenylimino)-4,1-phenylene]]tris- (9CI) (CA INDEX NAME)



RN 790256-32-5 HCAPLUS
CN Ethenetricarbonitrile, 2,2',2'',2'''-[(9,9'-spirobi[9H-fluorene]-2,2',7,7'-tetrayl)tetrakis[(phenylimino)-4,1-phenylene]]tetrakis- (9CI) (CA INDEX NAME)



IC ICM C09B023-00
ICS C08L005-00; C08L101-00; C09D007-12; C09D201-00
CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): 25, 41
IT 790256-24-5P, N,N'-Bis(4-tricyanoethenylphenyl)-N,N'-diphenylbenzidine 790256-25-6P, 2,7-Bis[N-phenyl-N-[p-(tricyanoethenyl)phenyl]amino]fluorene 790256-27-8P, 9-(Dicyanomethylene)-2,7-bis[[N-phenyl-N-(4-tricyanophenyl)]amino]fluorene 790256-28-9P, 1,3-Bis[[4-(tricyanoethenyl)phenyl]phenylamino]-5-(diphenylamino)benzene 790256-29-0P, 1,3,5-Tris[[4-(tricyanoethenyl)phenyl]phenylamino]benzene 790256-30-3P, Tris[4-[N-[4-(tricyanoethenyl)phenyl]phenylamino]phenyl]amine 790256-31-4P, 2-(Diphenylamino)-2',7,7'-tris[N-phenyl-[4-(tricyanoethenyl)phenyl]amino]-9,9'-spirofluorene 790256-32-5P, 2,2',7,7'-Tetrakis[N-phenyl-[4-(tricyanoethenyl)phenyl]amino]-9,9'-spirofluorene 790256-34-7P, 2,2-Bis[4-[N-phenyl-N-[p-(tricyanoethenyl)phenyl]amino]phenyl]propane 790256-35-8P, 1,3-Bis[N-methyl-p-(tricyanoethenyl)anilino]-5-(N-methylanilino)benzene 790256-36-9P, 1,3,5-Tris[N-methyl-p-(tricyanoethenyl)anilino]benzene
(colorant; organic colorants with metallic gloss for inks and coatings with good storage stability)

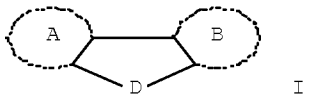
L7 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:873948 HCAPLUS Full-text
DOCUMENT NUMBER: 141:368328
TITLE: Optically functional material, sensitizing pigment for photoelectric conversion, photoelectric

conversion material, photoelectric conversion electrode, and photoelectrochemical cell.
INVENTOR(S): Yagi, Tamao; Ando, Munenori; Kurata, Ryuichiro
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004292744	A	20041021	JP 2003-90144	20030328

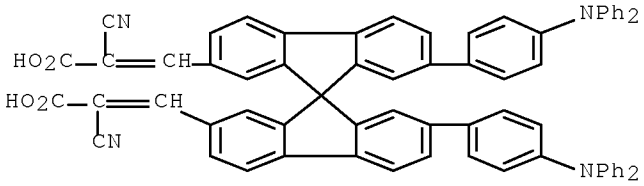
PRIORITY APPLN. INFO.: JP 2003-90144 20030328

ED Entered STN: 21 Oct 2004
GI



I

AB The functional material contains a substructure I [A and B = 5-20 member aromatic ring or heterocycle; D = ER1R2H; E = R3, NR1, N+R1R2, BR1, B-R1R2, or SiR1R2; R1 and R2 = H or monovalent organic residue; R1 and R2 will not be H at same time; and R3 = divalent organic residue] and an acidic substituent, its salt, or an ester derivative The pigment contains the above material. The photoelec. conversion material is obtained by linking the above pigment to an inorg. semiconductor porous material. The claimed electrode is obtained by laminating the photoelec. conversion material on a transparent electrode. The claimed cell has the above electrode, an electrolyte layer, and a conductive counter electrode.
IT 779357-66-3
(compns. of optically functional material as sensitizing pigments for solar cell electrodes)
RN 779357-66-3 HCAPLUS
CN 2-Propenoic acid, 3,3'-[7,7'-bis[4-(diphenylamino)phenyl]-9,9'-spirobi[9H-fluorene]-2,2'-diyl]bis[2-cyano- (9CI) (CA INDEX NAME)



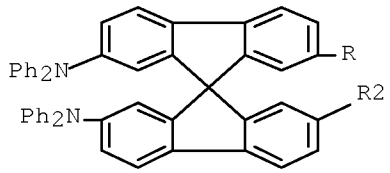
IC ICM C09B023-00
ICS C09B005-62; C09B045-10; C09B047-00; C09B047-12; C09B048-00; C09B053-00; C09B055-00; C09B056-16; C09B057-00; C09B057-08; C09B057-10; H01L031-04; H01M014-00
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 779357-62-9 779357-63-0 779357-64-1 779357-65-2
779357-66-3
(compns. of optically functional material as sensitizing pigments for solar cell electrodes)

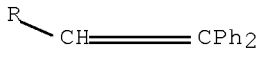
L7 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:587037 HCAPLUS Full-text
DOCUMENT NUMBER: 141:131068
TITLE: Electroluminescent compositions, and their organic

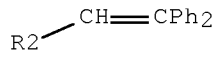
TITLE: electroluminescent devices emitting light from green to yellow
INVENTOR(S): Onikubo, Shunichi; Yauchi, Hiroyuki; Yagi, Tamao; Kaneko, Tetsuya; Tanaka, Hiroaki; Takada, Yasuyuki
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004206893	A	20040722	JP 2002-371262	20021224
JP 3969300	B2	20070905		
PRIORITY APPLN. INFO.:			JP 2002-371262	20021224

ED Entered STN: 22 Jul 2004
AB The compns. contain (A) compds. having peaks at 475-600 nm in fluorescent spectra of their solid films and (B) compds. showing the sum of areas (intensities) ≤20% at ≤500 nm and ≥600 nm, or at ≥500 nm based on total areas (intensities) at 400-800 nm in fluorescent spectrum of solid films comprising A and 5% B. Organic electroluminescent devices having emitter layers containing the compns. containing 1:0.1 perylene derivative and diketopyrrolopyrrole derivative showed high luminescence intensity and good durability in repeated use.
IT 724789-65-5
(host; electroluminescent compns. for organic electroluminescent devices showing high luminescence intensity and durability in repeated use)
RN 724789-65-5 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2'-diamine, 7,7'-bis(2,2-diphenylethenyl)-N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)







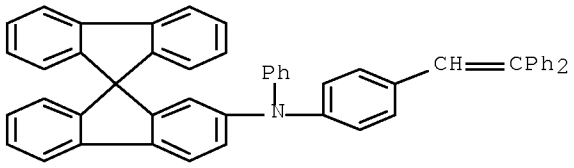
IC ICM H05B033-14
ICS C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 2085-33-8 23467-27-8 96158-94-0 96159-17-0 107680-84-2
107680-85-3 123847-85-8 175395-59-2 188049-37-8 194214-31-8
205104-13-8 227009-35-0 227009-36-1 384343-78-6 384343-80-0
474067-56-6 477719-72-5 536761-33-8 536761-36-1 536761-38-3
536761-39-4 536761-55-4 724788-95-8 724788-97-0 724788-98-1
724789-00-8 724789-02-0 724789-03-1 724789-05-3 724789-60-0
724789-62-2 724789-65-5
(host; electroluminescent compns. for organic electroluminescent devices showing high luminescence intensity and durability in repeated use)

L7 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:317922 HCAPLUS Full-text
DOCUMENT NUMBER: 138:347368
TITLE: High electron-mobility and high ON/OFF-current-ratio organic thin-film transistors

INVENTOR(S): Higashiguchi, Itaru; Oda, Atsushi; Ishikawa, Hitoshi
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 77 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

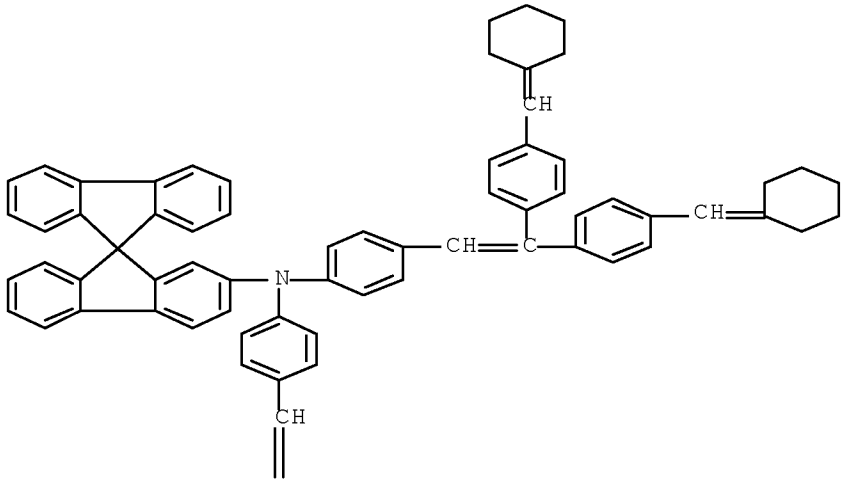
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003124472	A	20030425	JP 2001-320342	20011018
JP 3823312	B2	20060920		
US 6747287	B1	20040608	US 2002-272962	20021017
CN 1412864	A	20030423	CN 2002-147242	20021018
PRIORITY APPLN. INFO.:			JP 2001-320342 A	20011018

ED Entered STN: 25 Apr 2003
AB The title organic TFTs contain X[NAr1Ar2]n {Ar1, Ar2 = C6-20 (substd.) aromatic hydrocarbon or aromatic heterocyclic group, wherein Ar1 and Ar2 may bonded together to form a ring each other; X = 1-4 valent (substd.) C6-34 condensed aromatic hydrocarbon group compound}. The organic compds. give TFTs high electron mobility and high ON/OFF-current-ratio.
IT 515833-27-9 515833-57-5 515833-97-3
515834-38-5 515834-47-6 515834-63-6
515834-72-7 515834-73-8 515834-84-1
(high electron-mobility and high ON/OFF-current-ratio organic aromatic-heterocyclic compound thin-film transistors)
RN 515833-27-9 HCAPLUS
CN 9,9'-Spirobi[9H-fluoren]-2-amine, N-[4-(2,2-diphenylethenyl)phenyl]-N-phenyl- (9CI) (CA INDEX NAME)



RN 515833-57-5 HCAPLUS
CN 9,9'-Spirobi[9H-fluoren]-2-amine, N-[4-[2,2-bis[4-(cyclohexylidenemethyl)phenyl]ethenyl]phenyl]-N-[4-(cyclohexylidenemethyl)phenyl]- (CA INDEX NAME)

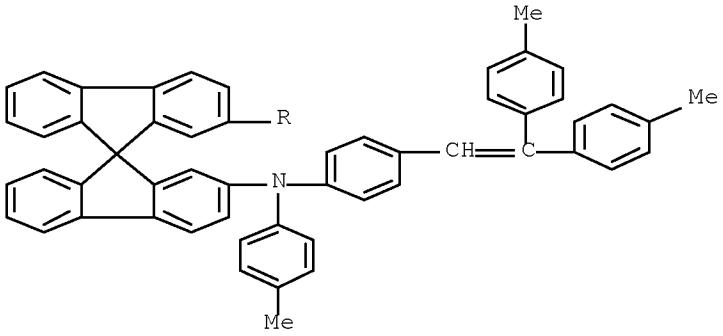
PAGE 1-A



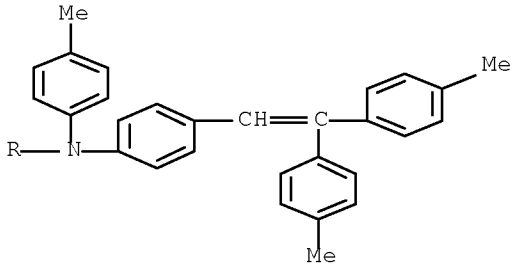
PAGE 2-A

RN 515833-97-3 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2'-diamine, N,N'-bis[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

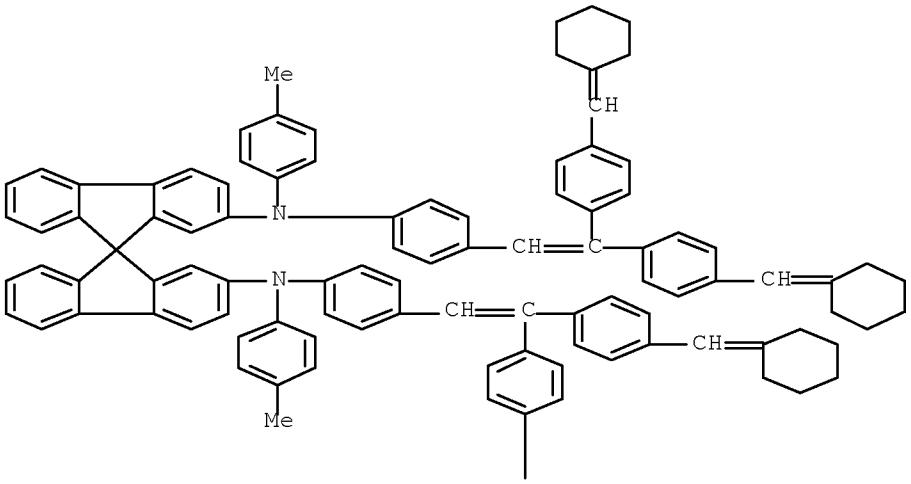


PAGE 2-A

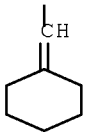


RN 515834-38-5 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2'-diamine, N,N'-bis[4-[2,2-bis[4-(cyclohexylidenemethyl)phenyl]ethenyl]phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

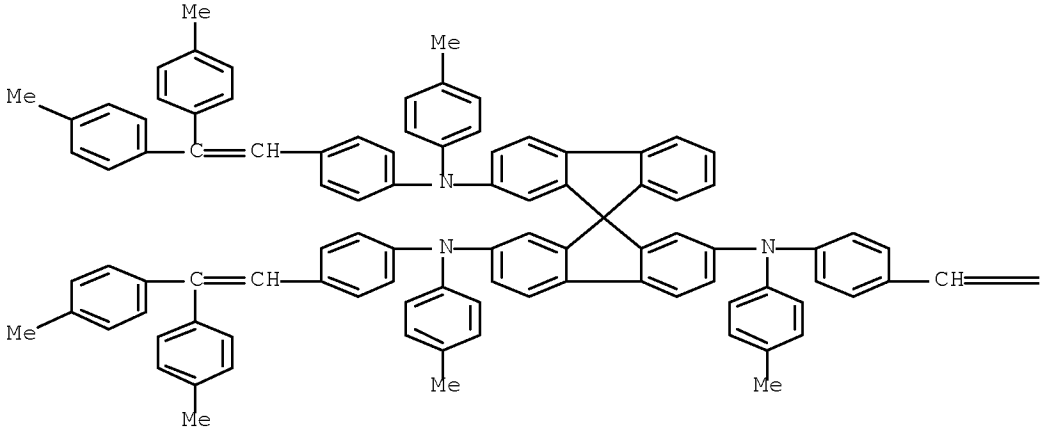


PAGE 2-A

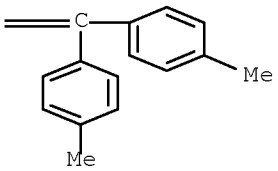


RN 515834-47-6 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2',7-triamine, N,N',N''-tris[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N,N',N''-tris(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

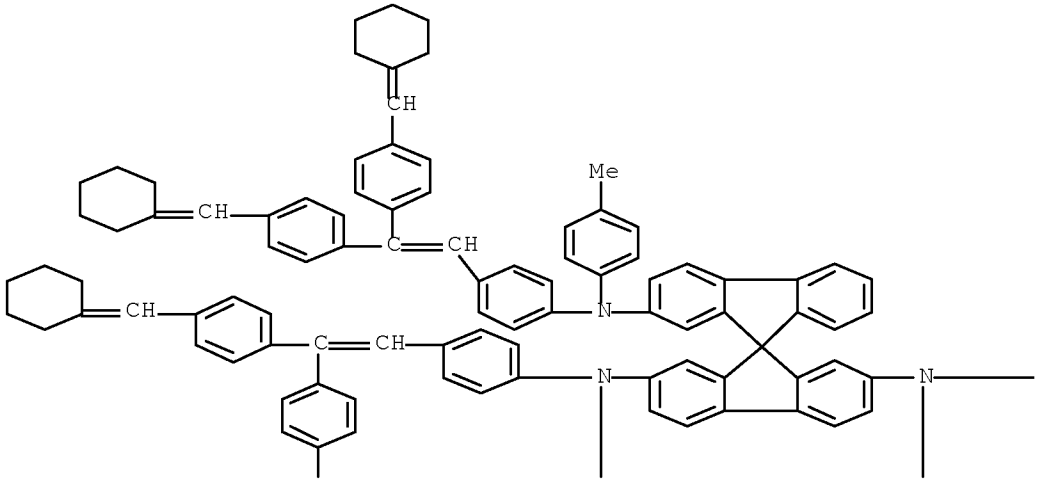


PAGE 1-B

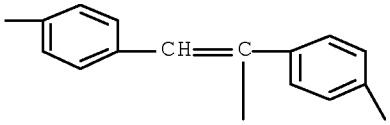


RN 515834-63-6 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2',7-triamine, N,N',N''-tris[4-[2,2-bis[4-(cyclohexylidenemethyl)phenyl]ethenyl]phenyl]-N,N',N''-tris(4-methylphenyl)- (9CI) (CA INDEX NAME)

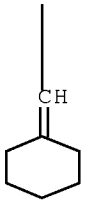
PAGE 1-A

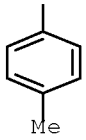


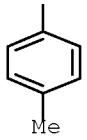
PAGE 1-B



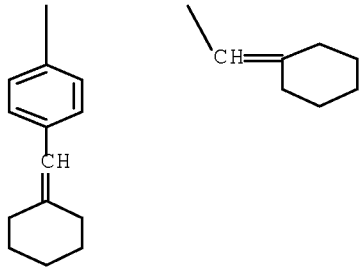
PAGE 2-A



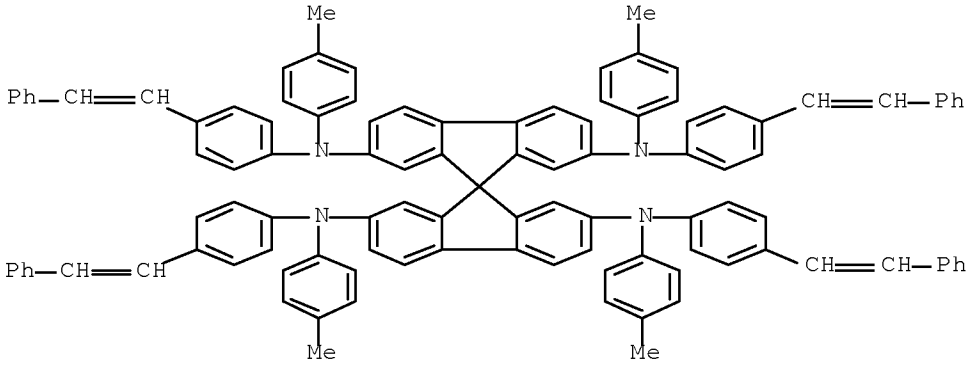




PAGE 2-B

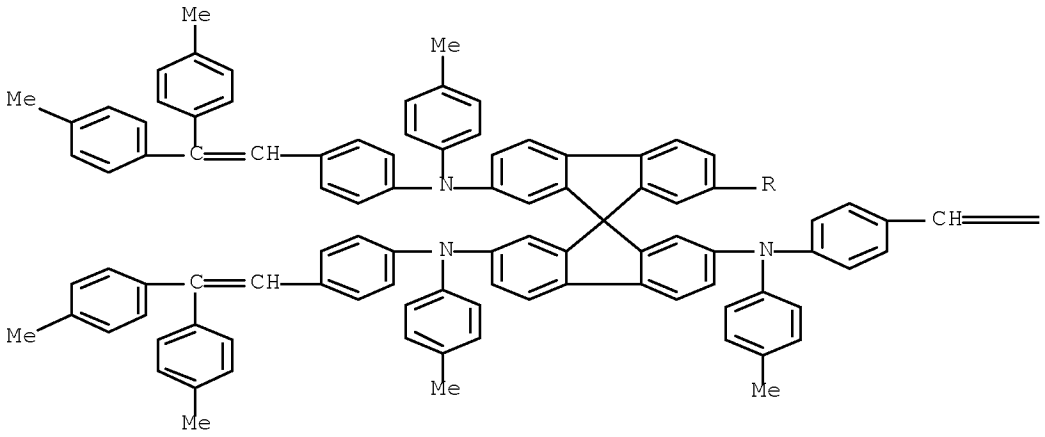


RN 515834-72-7 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2',7,7'-tetramine, N,N',N'',N'''-tetrakis(4-methylphenyl)-N,N',N'',N'''-tetrakis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

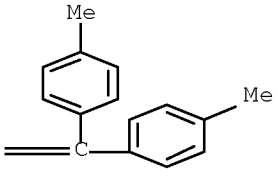


RN 515834-73-8 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2',7,7'-tetramine, N,N',N'',N'''-tetrakis[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N,N',N'',N'''-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

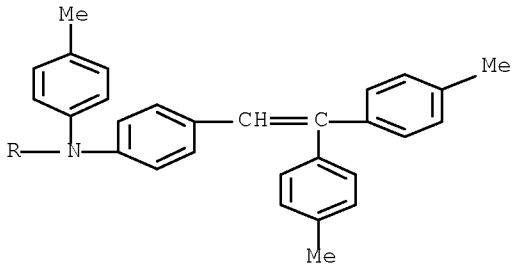
PAGE 1-A



PAGE 1-B

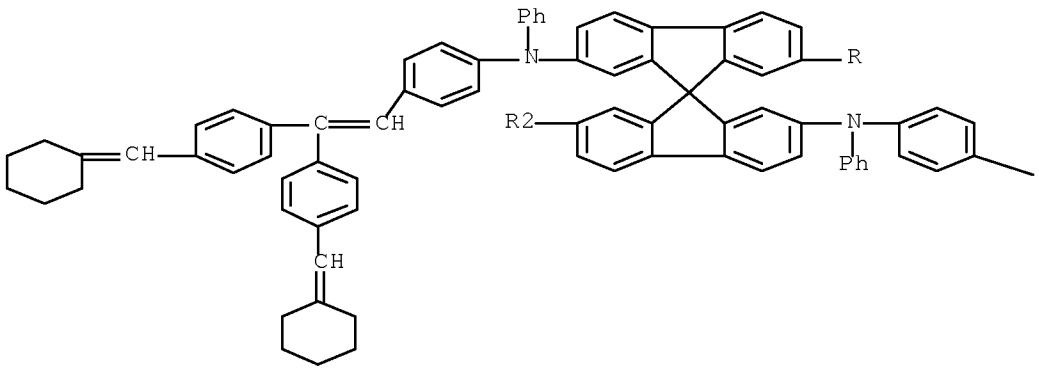


PAGE 2-A

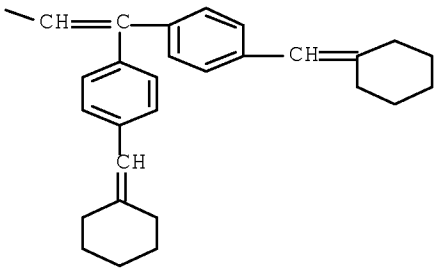


RN 515834-84-1 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,2',7,7'-tetramine, N,N',N'',N'''-tetrakis[4-[2,2-bis[4-(cyclohexylidenemethyl)phenyl]ethenyl]phenyl]-N,N',N'',N'''-tetraphenyl- (9CI) (CA INDEX NAME)

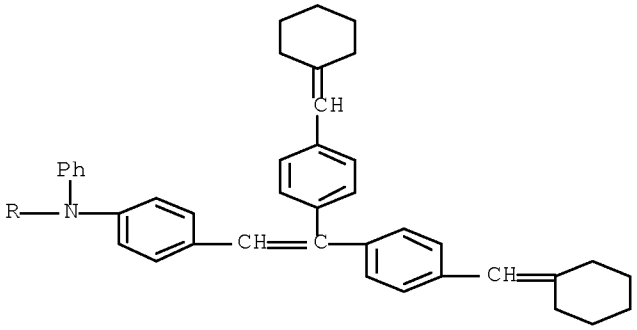
PAGE 1-A



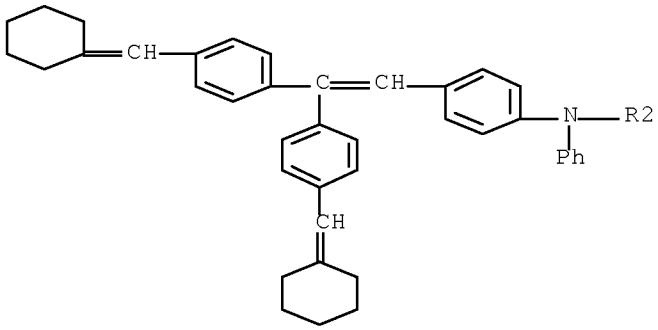
PAGE 1-B



PAGE 2-A



PAGE 3-A



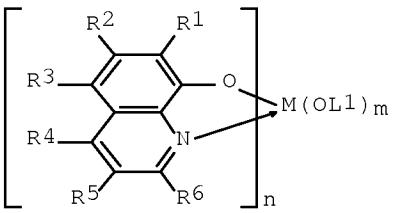
IC ICM H01L029-786
ICS H01L029-80; H01L051-00
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 25, 27, 28
IT 148077-52-5 177799-16-5 178562-07-7 227010-23-3 243847-56-5
252646-51-8 259220-14-9 278174-16-6 345658-49-3 345658-55-1
384343-74-2 384343-78-6 394656-41-8 426218-15-7 426218-23-7
426218-25-9 426218-28-2 426218-33-9 426218-35-1 515832-99-2
515833-00-8 515833-01-9 515833-02-0 515833-03-1 515833-04-2
515833-05-3 515833-06-4 515833-07-5 515833-08-6 515833-09-7
515833-10-0 515833-11-1 515833-12-2 515833-13-3 515833-14-4
515833-15-5 515833-16-6 515833-17-7 515833-18-8 515833-19-9
515833-20-2 515833-21-3 515833-22-4 515833-23-5 515833-24-6
515833-25-7 515833-26-8 515833-27-9 515833-28-0
515833-29-1 515833-30-4 515833-31-5 515833-32-6 515833-33-7
515833-34-8 515833-35-9 515833-36-0 515833-37-1 515833-38-2
515833-39-3 515833-40-6 515833-41-7 515833-42-8 515833-43-9
515833-44-0 515833-45-1 515833-46-2 515833-47-3 515833-48-4
515833-49-5 515833-50-8 515833-51-9 515833-52-0 515833-53-1
515833-54-2 515833-55-3 515833-56-4 515833-57-5
515833-58-6 515833-59-7 515833-60-0 515833-61-1 515833-62-2
515833-63-3 515833-64-4 515833-65-5 515833-66-6 515833-67-7
515833-68-8 515833-69-9 515833-70-2 515833-71-3 515833-72-4
515833-73-5 515833-74-6 515833-75-7 515833-76-8 515833-77-9
515833-78-0 515833-79-1 515833-80-4 515833-81-5 515833-82-6
515833-83-7 515833-84-8 515833-85-9 515833-86-0 515833-87-1
515833-88-2 515833-89-3 515833-90-6 515833-91-7 515833-92-8
515833-93-9 515833-94-0 515833-95-1 515833-96-2
515833-97-3 515833-98-4 515833-99-5 515834-00-1
515834-01-2 515834-02-3 515834-03-4 515834-04-5 515834-05-6
515834-06-7 515834-07-8 515834-08-9 515834-09-0 515834-10-3
515834-11-4 515834-12-5 515834-13-6 515834-14-7 515834-15-8
515834-16-9 515834-17-0 515834-18-1 515834-19-2 515834-20-5

515834-21-6 515834-22-7 515834-23-8 515834-24-9 515834-25-0
515834-26-1 515834-27-2 515834-28-3 515834-29-4 515834-30-7
515834-31-8 515834-32-9 515834-33-0 515834-34-1 515834-35-2
515834-36-3 515834-37-4 515834-38-5 515834-39-6
515834-40-9 515834-41-0 515834-42-1 515834-43-2 515834-44-3
515834-45-4 515834-46-5 515834-47-6 515834-49-8
515834-51-2 515834-53-4 515834-55-6 515834-57-8 515834-59-0
515834-61-4 515834-63-6 515834-65-8 515834-67-0
515834-70-5 515834-72-7 515834-73-8 515834-75-0
515834-79-4 515834-81-8 515834-82-9 515834-83-0
515834-84-1
(high electron-mobility and high ON/OFF-current-ratio organic aromatic-heterocyclic compound thin-film transistors)

L7 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:299391 HCAPLUS Full-text
DOCUMENT NUMBER: 138:330028
TITLE: Organic thin film transistor
INVENTOR(S): Higashiguchi, Itaru; Oda, Atsushi; Ishikawa, Hitoshi
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003115624	A	20030418	JP 2001-310210	20011005
JP 3856202	B2	20061213		
US 2003111692	A1	20030619	US 2002-263665	20021004
US 6784452	B2	20040831		
CN 1433095	A	20030730	CN 2002-151811	20021008
PRIORITY APPLN. INFO.:			JP 2001-310210 A	20011005

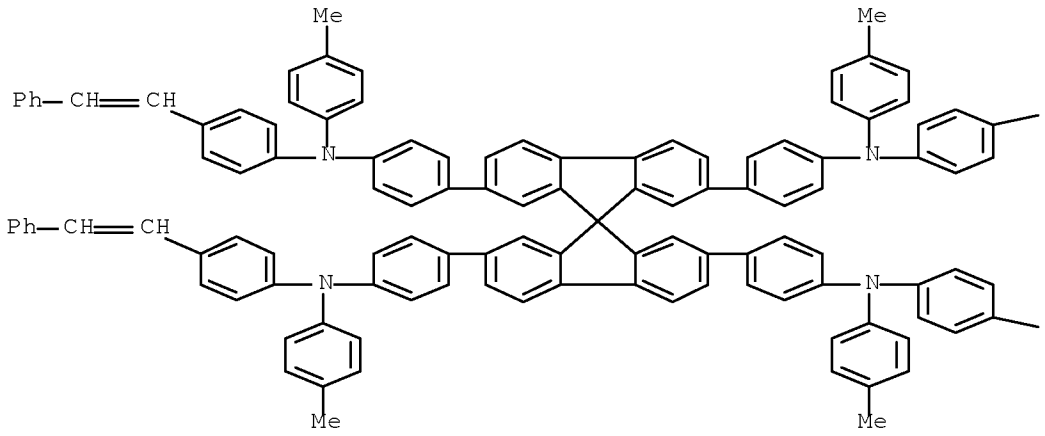
ED Entered STN: 18 Apr 2003
GI



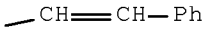
I

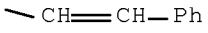
AB An organic thin film transistor having a high response speed comprises first and second electrode sandwiching an organic layer, whose carrier transport direction is same as its thickness direction, from I, where R1 - R6 = H, halogen, OH, (un)substituted amino group, nitro group, cyano group, (un)substituted alkyl, (un)substituted alkenyl, (un)substituted cycloalkyl, (un)substituted alkoxy, (un)substituted aromatic hydrocarbon, (un)substituted aromatic heterocyclic, (un)substituted aralkyl, (un)substituted aryloxy, (un)substituted alkoxycarbonyl, carboxyl, or ring, L1 = (un)substituted alkyl, (un)substituted alkenyl, (un)substituted cycloalkyl, (un)substituted aromatic hydrocarbon, (un)substituted heterocyclic, or (un)substituted aralkyl, n = 1 - 3, method = 0 - 2, and M = metal ion having (n+m) valence.
IT 510775-22-1
(organic films of thin film transistor)
RN 510775-22-1 HCAPLUS
CN Benzenamine, 4,4',4'',4'''-(9,9'-spirobi[9H-fluorene]-2,2',7,7'-tetrayl)tetrakis[N-(4-methylphenyl)-N-[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B





IC ICM H01L051-00
ICS H01L029-786; H01L029-80
CC 76-3 (Electric Phenomena)
IT 120-12-7, Anthracene, uses 135-48-8, Pentacene 188-72-7, Tribenzo[de,kl,rst]pentaphene 198-55-0, Perylene 2085-33-8, Aluminum tris(8-hydroxyquinolinato) 7641-40-9 24601-13-6 142289-08-5 146162-54-1 157077-43-5 166444-95-7 194214-31-8 194794-43-9 213527-39-0 296269-66-4 328388-12-1 350042-00-1 510775-14-1 510775-15-2 510775-16-3 510775-17-4 510775-18-5 510775-19-6 510775-20-9 510775-21-0 510775-22-1 510775-23-2 510775-24-3 510775-25-4
(organic films of thin film transistor)

L7 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:893998 HCAPLUS Full-text
DOCUMENT NUMBER: 138:328538
TITLE: Oligothiophene as photonic/electronic property modulator
AUTHOR(S): Kim, O.-K.; Lee, K.-S.; Huang, Z.; Heuer, W. B.; Paik-Sung, C. S.
CORPORATE SOURCE: Chemistry Division, Naval Research Laboratory, Washington, DC, 20375-5342, USA
SOURCE: Optical Materials (Amsterdam, Netherlands) (2003), 21(1-3), 559-564
CODEN: OMATET; ISSN: 0925-3467
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

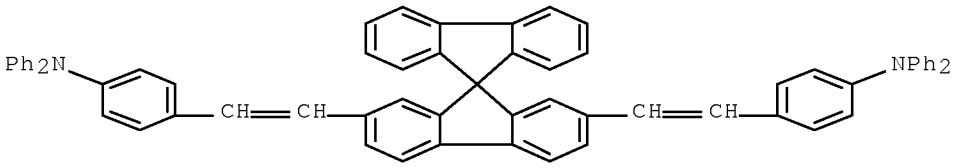
ED Entered STN: 25 Nov 2002

AB Several different series of conjugated oligomers bearing various π-centers such as dithienothiophene (DTT), fluorene and terthiophene moieties, attaching electron donor and/or electron acceptor units through conjugation were synthesized and assessed for their nonlinear optical, 2-photon absorption and redox properties. Discussion is made on the property modulation role of the π-centers, particularly by DTT oligothiophene, which displays a unique and efficient electronic mediation.

IT 436798-89-9 436798-90-2
(oligothiophene as photonic/electronic property modulator)

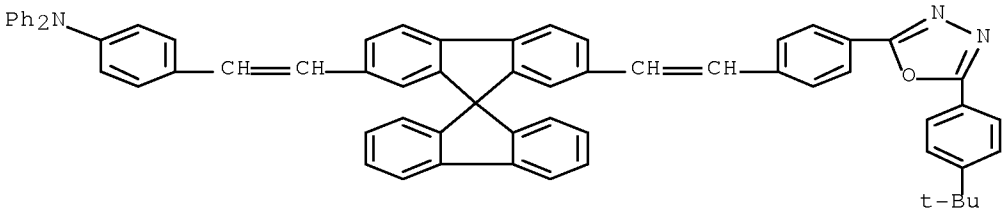
RN 436798-89-9 HCAPLUS

CN Benzenamine, 4,4'-(9,9'-spirobi[9H-fluorene]-2,7-diyldi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 436798-90-2 HCAPLUS

CN Benzenamine, 4-[2-[7-[2-[4-[5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazol-2-yl]phenyl]ethenyl]-9,9'-spirobi[9H-fluoren]-2-yl]ethenyl]-N,N-diphenyl- (CA INDEX NAME)



CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 178450-12-9 178450-13-0 178450-14-1 261163-36-4 261163-37-5
279675-93-3 436798-87-7 436798-88-8 436798-89-9
436798-90-2 436798-91-3 436798-92-4 513416-57-4
513416-58-5 513416-59-6
(oligothiophene as photonic/electronic property modulator)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:229705 HCAPLUS Full-text

DOCUMENT NUMBER: 137:33030

TITLE: Novel two-photon absorbing conjugated oligomers and polymers: Property modulation by π-center

AUTHOR(S): Huang, Zehnnian; Heuer, William B.; Sung, Chong S. P.; Kim, Oh-Kil

CORPORATE SOURCE: Chem. Div., Naval Research Laboratory, Washington, DC, 20375-5342, USA

SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2002), 43(1), 147-148
CODEN: ACPPAY; ISSN: 0032-3934

PUBLISHER: American Chemical Society, Division of Polymer Chemistry

DOCUMENT TYPE: Journal; (computer optical disk)

LANGUAGE: English

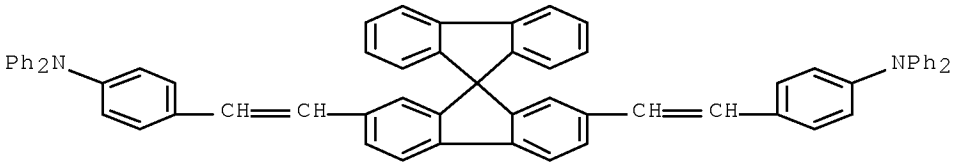
ED Entered STN: 27 Mar 2002

AB Conjugated oligomeric and polymeric chromophores were synthesized by Wittig reactions of PPh3CH2-terminated donor (D) and/or acceptor (A) moieties with a bifunctional π-center, CHO-π-CHO. Two-photon absorption (TPA) was observed in the conjugated mols. bearing D and A pairs. The role of the π-conjugated linker (π-center) of the chromophores (D-p -D, D-p -A and A-p -A) on TPA activity was studied. These compds. are highly fluorescent, particularly with D/D pair chromophores relative to D/A pair as indicated by the fluorescence quantum yield, due to competing charge transfer pathways for decay of the singlet excited state. The redox potential of π2- and π3-containing chromophores is very similar when compared with the same D/D or A/A pairs. The oxidation potential is relatively lower for the D/D pair systems while the reduction potential is lower for the A/A pair system. The oligomeric TPA chromophores based on dithienothiophene (DTT) as π-center and different D and/or A moieties displayed exceptionally large TPA cross-sections, especially for D/D pair compared to D/A counterpart. This situation was reversed when the π-center was replaced with 9,9-spirobifluorene; a large enhancement of the cross-section was observed for the A/A pair relative to D/D. This result contrasts with that of 9,9-diethylhexylfluorene-based polymer, suggesting that mol. TPA is determined by the π-center and, even more significantly, by electronic interactions between the π-center and individual D and/or A pairs.

IT 436798-89-9P 436798-90-2P
(preparation and redox potential and charge transfer in two-photon absorbing conjugated oligomers having donor and acceptor moieties linked through thiophene or fluorene π-centers)

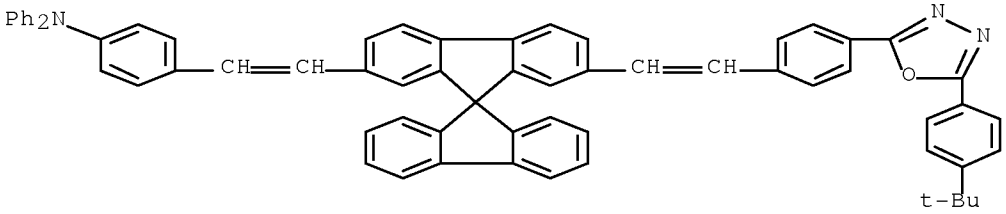
RN 436798-89-9 HCAPLUS

CN Benzenamine, 4,4'-(9,9'-spirobi[9H-fluorene]-2,7-diyldi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 436798-90-2 HCAPLUS

CN Benzenamine, 4-[2-[7-[2-[4-[5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazol-2-yl]phenyl]ethenyl]-9,9'-spirobi[9H-fluoren]-2-yl]ethenyl]-N,N-diphenyl- (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 36, 73, 74

IT 261163-34-2P 261163-35-3P 261163-36-4P 261163-37-5P
279675-93-3P 436798-87-7P 436798-88-8P 436798-89-9P
436798-90-2P 436798-91-3P 436798-92-4P
(preparation and redox potential and charge transfer in two-photon absorbing conjugated oligomers having donor and acceptor moieties linked through thiophene or fluorene π-centers)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1999:638518 HCAPLUS Full-text

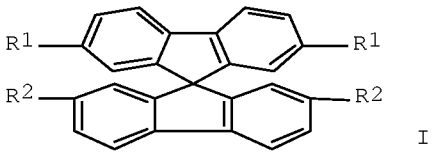
DOCUMENT NUMBER: 131:250226

TITLE: Organic electroluminescent device comprising spiro

compound with fluorene-skeleton
INVENTOR(S): Tokito, Seishi; Taka, Yasunori; Sawaki, Yasuhiko; Kimura, Makoto; Inoue, Shinichiro
PATENT ASSIGNEE(S): Toyota Central Research and Development Laboratories, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11273863	A	19991008	JP 1998-77456	19980325
PRIORITY APPLN. INFO.:			JP 1998-77456	19980325

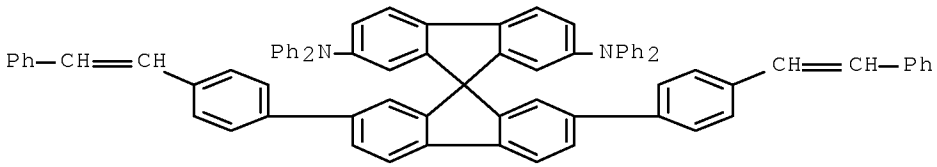
OTHER SOURCE(S): MARPAT 131:250226
ED Entered STN: 08 Oct 1999
GI



I

AB The invention relates to an organic electroluminescent device, wherein ≥1 organic layers comprise an asym. spiro compound having a fluorene-skeleton, represented by I [R1,2 = dissimilar groups selected from H, alkyl, Ph, diarylamino, etc.], for improving the heat resistant properties of the device.

IT 244301-15-3
(organic electroluminescent device comprising spiro compound with fluorene-skeleton)
RN 244301-15-3 HCAPLUS
CN 9,9'-Spirobi[9H-fluorene]-2,7-diamine, N,N,N',N'-tetraphenyl-2',7'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 244301-15-3 244301-16-4 244301-17-5 244301-18-6 244301-19-7
(organic electroluminescent device comprising spiro compound with fluorene-skeleton)

```
=>  d his nofile

     (FILE 'HOME' ENTERED AT 14:11:00 ON 11 DEC 2007)

     FILE 'HCAPLUS' ENTERED AT 14:11:08 ON 11 DEC 2007
L1             1 SEA ABB=ON  PLU=ON  US20060063027/PN
                 SEL RN

     FILE 'REGISTRY' ENTERED AT 14:11:26 ON 11 DEC 2007
L2            32 SEA ABB=ON  PLU=ON  (1047-16-1/BI OR 120-12-7/BI OR
                 129-00-0/BI OR 135-48-8/BI OR 13978-85-3/BI OR 142289-08-5/
                 BI OR 14642-34-3/BI OR 189363-47-1/BI OR 198-55-0/BI OR
                 200052-70-6/BI OR 2085-33-8/BI OR 212117-54-9/BI OR
                 214078-86-1/BI OR 296269-66-4/BI OR 51325-91-8/BI OR
                 517-51-1/BI OR 58328-31-7/BI OR 643007-04-9/BI OR 723285-19
                 -6/BI OR 723285-20-9/BI OR 723285-21-0/BI OR 723285-22-1/BI
                  OR 723285-23-2/BI OR 723285-24-3/BI OR 723285-25-4/BI OR
                 73299-03-3/BI OR 7440-06-4/BI OR 7440-53-1/BI OR 81-88-9/BI
                  OR 91-64-5/BI OR 92-24-0/BI OR 94928-86-6/BI)
L3             STR
L4             STR
L5             1 SEA SSS SAM L3 AND L4
L6            35 SEA SSS FUL L3 AND L4
                 SAV L6 NEL461/A

     FILE 'HCAPLUS' ENTERED AT 14:17:51 ON 11 DEC 2007
L7            18 SEA ABB=ON  PLU=ON
```